WHAT IS CLAIMED IS:

1. A process for forming one or more fluid feed vias in a semiconductor substrate chip for a micro-fluid ejection device, the process comprising the steps of:

(a) applying a photoresist planarization and protection layer to a first surface of the chip, the planarization and protection layer having a thickness ranging from about 1 to about 10 microns;

(b) patterning and developing the photoresist planarization and protection layer to define at least one fluid feed via location;

(c) applying a strippable masking layer to the photoresist planarization and protection layer of the chip, the strippable masking layer having a thickness ranging from about 10 to about 100 microns;

(d) patterning and developing the strippable masking layer to define the at least one fluid feed via location in the strippable masking layer;

(e) dry etching the chip to form at least one fluid feed via in the defined fluid feed via location;

(f) inducing deprotection of the strippable masking layer before or after step (e) so that the strippable masking layer can be substantially removed without affecting the photoresist planarization and protection layer.

2. The process of claim 1 wherein the strippable masking layer comprises a photoresist polymer containing acid labile protecting groups.

3. The process of claim 2 wherein the polymer comprises a protected polyhydroxystyrene material.

4. The process of claim 1 wherein the dry etching technique comprises deep reactive ion etching.

5. The process of claim 1, wherein the deprotection step is induced by a composition selected from the group consisting of an organic acid, an

inorganic acid, other positively charged species sufficient to deprotect the masking layer, and radiant energy.

6. The process of claim 5, wherein the strippable masking layer is removable with a solvent and wherein the solvent comprises any solvent in which polyhydroxystyrene is substantially soluble.

7. The process of claim 5 wherein the radiant energy comprises ultraviolet radiation.

8. An ink jet heater chip made by the process of claim 1.

9. A printhead containing an ink jet heater chip of claim 8.

10. A process for forming an ink feed via in a semiconductor substrate chip for an ink jet printhead, the process comprising the steps of:

(a) applying a photoresist planarization and protection layer to a first surface of the chip, the planarization and protection layer having a thickness ranging from about 1 to about 10 microns;

(b) patterning and developing the photoresist planarization and protection layer to define at least one ink feed via location;

(c) applying a strippable photoresist layer to the photoresist planarization and protection layer of the chip, the strippable photoresist layer having a thickness ranging from about 10 to about 100 microns;

(d) patterning and developing the strippable photoresist layer with a photomask to define the at least one ink feed via location in the strippable photoresist layer;

(e) dry etching the chip to form at least one ink feed via in the defined at least one ink feed via location;

(f) inducing deprotection of the strippable photoresist layer before or after step (e) using radiant energy so that the strippable photoresist layer can

be substantially removed without affecting the photoresist planarization and protection layer.

11. The process of claim 10 wherein the strippable photoresist layer comprises a polymer containing acid labile protecting groups.

12. The process of claim 11 wherein the polymer comprises a protected polyhydroxystyrene material.

13. The process of claim 10 wherein the dry etching technique comprises deep reactive ion etching.

14. The process of claim 10, wherein the strippable photoresist layer is removed with a solvent and wherein the solvent comprises a solvent in which polyhydroxystyrene is substantially soluble.

15. The process of claim 10 wherein the radiant energy comprises ultraviolet radiation.

16. An ink jet heater chip made by the process of claim 10.

17. A printhead containing an ink jet heater chip of claim 16.

18. A process for forming one or more ink feed vias in a semiconductor substrate chip for use in an ink jet printhead, the process comprising the steps of:

(a) applying a photoresist planarization and protection layer to a first surface of the chip, the planarization and protection layer having a thickness ranging from about 1 to about 10 microns;

(b) patterning and developing the photoresist planarization and protection layer to define at least one ink feed via location therein;

(c) applying a strippable photoresist layer to the photoresist planarization and protection layer of the chip, the strippable photoresist layer having a thickness ranging from about 10 to about 100 microns;

(d) patterning and developing the strippable photoresist layer with a photomask to define the at least one ink feed via location in the strippable photoresist layer;

(e) dry etching the chip to form at least one ink feed via in the defined at least one ink feed via location;

(f) inducing deprotection of the strippable photoresist layer before or after step (e) using a compound selected from the group consisting of an organic acid, an inorganic acid, and other positively charged species sufficient to deprotect the strippable photoresist layer so that the strippable photoresist layer can be substantially removed with a solvent without affecting the photoresist planarization and protection layer.

19. The process of claim 18 wherein the strippable photoresist layer comprises a polymer containing acid labile protecting groups.

20. The process of claim 18 wherein the polymer comprises a protected polyhydroxystyrene material.

21. The process of claim 18 wherein the dry etching technique comprises deep reactive ion etching.

22. The process of claim 18, wherein the solvent comprises a solvent in which polyhydroxystyrene is substantially soluble.

23. An ink jet heater chip made by the process of claim 18.

24. A printhead containing an ink jet heater chip of claim 23.